

Why oh Why Do Your Y-DNA?

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The Y-Chromosome

- Discovered in 1905
- Its presence or absence determines sex
- 62 million base pairs long and contains 693 genes
- Is not shaped like a Y, that is just its name
- Only inherited father to son
- Only changes through mutations
- Has a much higher mutation rate than all the other chromosomes
- Is the fastest evolving part of the human genome

A Brief History of Man (Ancient Haplogroups)

Y-chromosomal Adam

Y-chromosomal Adam is a nickname given to the most recent common ancestor that all patrilineal lines connect at. He was not the first man nor was he biblical Adam he is simply the most recent man that all men connect at. I think a better nickname for this man would have been Noah.

Haplogroup A

- The oldest surviving haplogroup
- Men in this haplogroup live exclusively in Africa or are African diaspora

Haplogroup BT

- Branched off from A when base pair 6,932,831¹ mutated from G to A
- All men except those in haplogroup A descend from BT
- Had two “sons” B and CT
- No one alive today has been found to belong to basal BT, but most living people today descend from one of BT’s descendant haplogroups

Haplogroup CT

- Branched off from BT when base pair 14,813,991 mutated from C to T
- Had two “sons” CF and DE

Haplogroup CF

- Branched off from CT when base pair 14,197,867 mutated from G to A
- Had two “sons” C and F

Haplogroup D

- Current owners of this haplogroup are most likely to be found in aboriginal Japanese and Tibet

Haplogroup E

¹ All positions are on the Y chromosome and all data is given in build 37.

- The most common haplogroup in African Americans

Haplogroup F

- Branched off from CF when base pair 21,917,313 mutated from C to T
- Had two “sons” F, and GHIJK

Haplogroup GHIJK

- GHIJK is an extinct macrohaplogroup
- Haplogroups G, H, I, J, and K all break off from it within quick succession

Haplogroup G

- Represents the first farmers in Europe

Haplogroup I

- Became the first people in Europe
- Is commonly found in Scandinavians today

Haplogroup K

- Low levels on every continent except Antarctica
- Rare and under researched
- L, M, N, O, P, S, T all break off from K

Haplogroup P

- Broke off from the K family
- Base pair 7,963,031 mutated from T to G
- P, Q, R all descend from P

Haplogroup Q

- Commonly found in Native Americans

Haplogroup R

- Commonly found in Europeans

R-M269

- A distant descendant of R
- The most common haplogroup in Europe
- Associated with the Yamnaya culture that brought the Indo-European language to Europe

Recent Haplogroups

Each major haplogroup has many more “sons” (sub-haplogroups). Genetic genealogists often connect recent haplogroups to particular surnames or even distinct branches of families and they solve genealogical problems by linking specific Y-DNA mutations to specific individuals giving them names, dates, and faces. More and more of these “sons” are being discovered all the time. If you take a Big-Y 700 then there is a high likelihood that a new sub-haplogroup unique to you and your family will be discovered.

Testing Options

Family Tree DNA

- Most DNA test some SNP's on the Y chromosome. 23andMe even predicts your broad haplogroup and shows what haplogroup your genetic relatives also belong to. However, if your goal is to use Y-DNA for genealogical purposes, then Family Tree DNA is your best option, because they are the only company that provides you with a Y-DNA match list of your closest patrilineal relatives. Family Tree DNA currently sells three versions of Y-DNA tests: Y-37, Y-111, and Big Y-700

Y-37 (\$119)

- *Predicts* your broad haplogroup and closest relatives
- May suggest your genetic surname
- As this is the cheapest test, it is good for testing the waters. You can buy this test to see if you have good matches in Family Tree DNA's database. If you like what you see, you can upgrade to a higher test by paying the difference. Family Tree DNA stores DNA samples so it is usually not necessary to test again.

Y-111 (\$249)

- *Predicts* your broad haplogroup and closest relatives
- Provides more accurate relationship estimates than Y-37

Big Y-700 (\$449)

- *Proves* your extremely specific haplogroup and your closest relatives
- Solves complicated genealogical problems

All of the above prices are Family Tree DNA's base prices as of 15 April 2023. However, they periodically go on sale.